## (19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 14 April 2005 (14.04.2005)

**PCT** 

## (10) International Publication Number WO 2005/033590 A1

(51) International Patent Classification<sup>7</sup>: F28D 21/00, F28F 9/013, B01D 53/26

F24F 3/14 //

(21) International Application Number:

PCT/SE2004/001408

(22) International Filing Date: 1 October 2004 (01.10.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 0302637-4

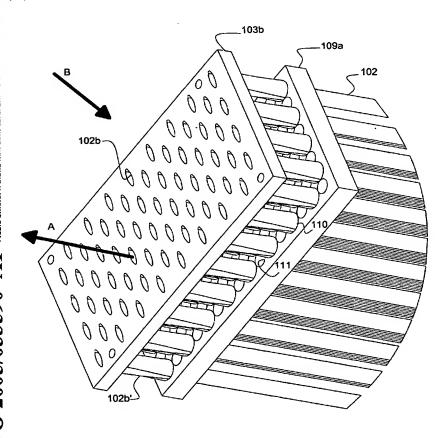
3 October 2003 (03.10.2003) SE

(71) Applicant and

- (72) Inventor: SIVERKLEV, Johan [SE/SE]; Thorbrunsgatan 10, S-412 64 Göteborg (SE).
- (74) Agent: KRANSELL & WENNBORG AB; Box 27834, S-115 93 Stockholm (SE).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: DEVICE FOR MOISTURE EXCHANGE BETWEEN GAS FLOWS



(57) Abstract: Device for exchange of moisture, between at least two counter-current gas flows (A, B), comprising a generally closed chamber (1, 101) having an inlet (7, 107) and an outlet (8, 108) for a first gas flow (B), such that the first gas flow flows in a first direction from the inlet to the outlet inside the chamber; and at least one duct (2, 102), which extends inside the chamber, generally in parallel with the first direction, which duct (2, 102) is arranged to conduct a second fluid flow (A) in an opposite direction to the first direction and which duct (2, 102) comprises a duct wall material with high permeability to water. In order to enhance the efficiency of the moisture exchange the device comprises an inlet space for the gas flow B, which inlet space is arranged in the central chamber (1, 101), between the inlet (7, 107) and a first support and flow distributing member (9a, 109a) arranged inside the chamber (1, 101) between the inlet opening (7, 107) and the outlet opening (8, 108), and means for uniform distribution of the gas inside the inlet space for providing a generally parallel and uniform first fluid flow (B) inside the chamber.

## WO 2005/033590 A1



## Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.